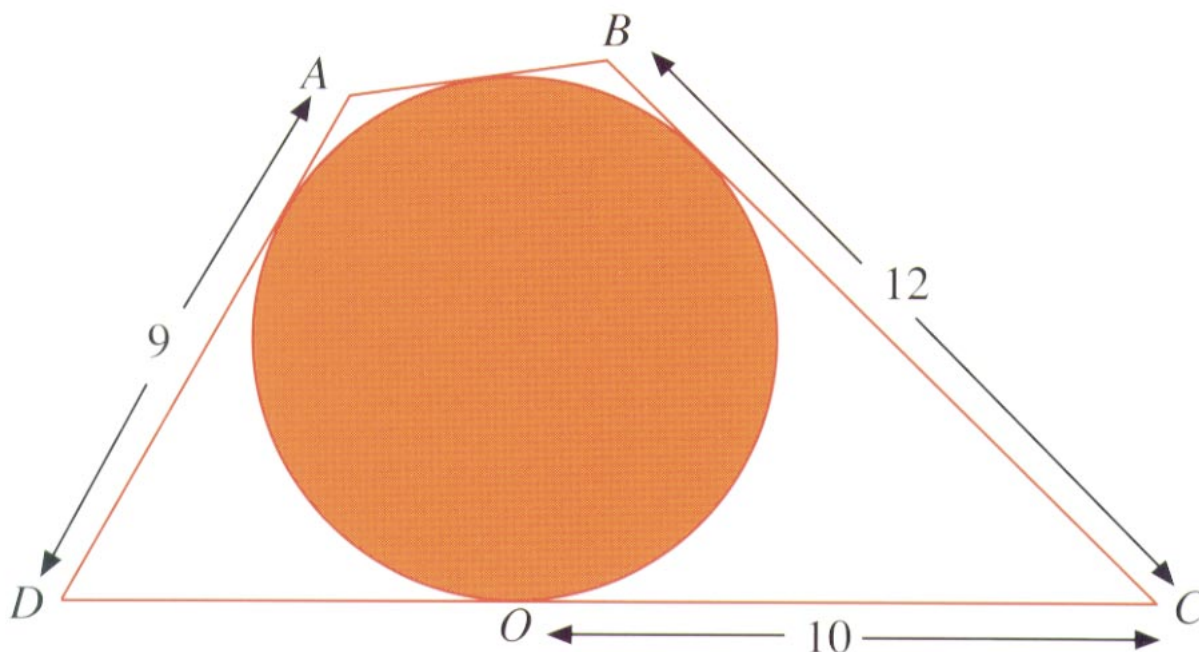


An Inscribed Circle

Problem-of-the-Week

The Problem

Quadrilateral $ABCD$ is circumscribed about the circle. The measures of \overline{AD} and \overline{BC} are shown in the figure. Side \overline{CD} measures 17 units and is tangent to the circle at point O . Find the measure of \overline{AB} .



Strategies and Hints

1. One measure not marked in the figure can be found by subtraction. Which measure is this and what is its value?
2. Explain how the following theorem relates to the solution of this problem.
If two segments from the same exterior point are tangent to a circle, then they are congruent.
3. When you have finished solving the problem, copy the figure and add the radii that connect the center of the circle to the four points of tangency.